AU15599

-Children's Perceptions of Learning Braille: Qualitative & Quantitative Findings of the ABC Braille Study

Introduction

Learning to read and write can be a complex task for students with visual impairments, especially if students are not exposed to a myriad of early literacy experiences. Providing opportunities for students to explore their environment, and be exposed to real experiences sets the stage for developing vocabulary, learning new concepts, and experiencing books and other forms of literature. Families and teachers play a critical role in promoting early literacy and can influence students' attitudes about reading (Argyropoulos, Sideridis, & Katsoulis, 2008; Brennan, Luz, & Peterson; Craig, 1996; and Craig, 1999). Retrospective studies of adults with visual impairments who are successfully employed point to early exposure to books, being read to by family members, and learning to read and write Braille as factors contributing to their high levels of literacy (Brennan, Luz, & Peterson, 2009; Ryles, 1996; and Project Emerge, 2009).

Research clearly demonstrates that students who are at risk for reading failure tend to be less engaged in reading (Morgan, Fuchs, Compton, Cordray, & Fuchs, 2008). These students exhibit less motivation and interest in reading. Their attitudes toward reading are negative because learning to read is slow and tedious (Hersh, Stone, & Ford, 1996). Recent studies propose that poor motivation may be a defining factor in failure to read (Sideridis, Morgan, Botsas, Padeliadu, & Fuchs, 2006). At present no studies have examined the perceptions of children with visual impairments who are

learning to read and write braille. One might suggest that like their sighted peers, motivation plays a role in blind children's success in developing strong literacy skills.

The purpose of this study was to examine young children's perceptions of learning to read and write Braille. Initially, students who participated in the Alphabetic Braille and Contracted Braille Study (ABC Braille Study) were evaluated by how Braille was introduced: contracted or uncontracted. In order for researchers to evaluate student perceptions each participant was given a 10-item questionnaire during each year of the study.

Method

Participants

A total of 39 students were interviewed during the spring of each year of the ABC Braille Study. Students were interviewed by the ABC researcher at their school site. Wall-Emerson, Holbrook, & DeAndrea, 2009 and Sacks, Kamei Hannan, Erin, Barclay, & Sitar (2009) provide a more detailed description of the study participants. Each participant was taught either contracted or uncontracted braille as determined by the student's TVI. None of the students in the study exhibited additional disabilities. Students participated in the ABC Braille Study from Pre-K through Grade Four. The majority of students participated in the study for five years, although some students were enrolled in years two and three of the study.

Instrumentation & Procedure

The student questionnaire included 10 open-ended questions related to who taught the students braille, what the students liked and disliked about braille, what favorite books students had, who read to the students in what medium, and what friends and teachers' interests and reactions were to braille. The same questionnaire was used for each year of the study. Each researcher read the interview question to the students. Students responded verbally, and their responses were recorded verbatim.

Results

Initially, student responses were examined by year to determine if there were differences in responses over time. No differences were found, and in fact, student responses were consistent over the five years of the study. Also, student responses were examined by those initially taught contracted braille versus those taught alphabetic braille. Again, no differences were found. Interesting findings were apparent among those students who were identified as high and low achieving students (See Wall-Emerson, Sitar, Erin, Wormsley, & Leigh Herlich, 2009).

Responses from 8 students in the Higher Tier group and 7 students in the Lower Achieving group were analyzed. For the High Achievers, 27 total interviews were analyzed, and for the Low Achievers, 28 questionnaires were reviewed. Student responses are described here by question. As stated earlier, not all students were interviewed each year of the study. Some students entered the study during the second and third years of the investigation. Because of this data are not consistent for each group.

1. Who teaches you to read and write braille?

Students from both groups viewed the Teacher of students with Visual Impairments as their primary instructor of braille literacy (n = 45, 80%), with the paraprofessional named less frequently (n = 20, 36%) and the regular educator named by only 8 children (14%). Three children in the higher achieving group named other people including my family, myself, and the summer camp teacher. Ten children in the High Achievement group and 12 in the Low Achievement group named more than one person, which is why the total for each column is more than 100%. No notable differences in responses occurred between the high achievement and low achievement groups.

2. What do you like about learning to read and write braille?

Overall, students in the High Achievement group provided more positive responses (n = 37 responses) than the Low Achievement group (n = 21 responses). In fact four students in the low Achievement group stated that there wasn't anything about reading and writing braille that they liked and four students said they didn't know what they liked about braille or provided no answer. No questionnaires among the High Achievers included negative responses. In addition, the students in the High Achievement group said that they liked to read and write more often (n = 22, 81% of the 27 interviews), as compared to the low Achievement group (n = 7, 25% of the 28 interviews). Students from both groups identified the use of tools and activities as a factor they enjoyed. Students in the Low Achieving group mentioned more activities such as toys, books, and puzzles. Two students in this group said they liked math (5

responses total over time), which was not named by any students in the High Achievers group. Although two students in the Low Achieving group mentioned ease of use, they specifically said they liked braille when it was easy, as compared to the High Achieving student who said that braille was easy. The Low Achievers were more discrepant in their attitudes toward braille.

3. What don't you like about reading and writing braille?

The groups showed clear differences in their responses to this question. In the High Achieving group, 11 of 27 questionnaires indicated that there was nothing the respondent disliked about reading and writing braille. Three others in this group indicated that they disliked having to stop reading for some reason: one didn't want to go home, another didn't like it when other students talked when she was reading, and a third didn't like being told to slow down when reading. Additional responses included not liking the loud noise of the braille writer, using a Perkins braille writer, doing too much work, and using numbers. Only three students said that they did not like reading braille. Responses from the high achieving group were about time constraints and extraneous factors; and they were not about disliking reading and writing braille.

In contrast, the Low Achieving students had many more comments about specific aspects of braille and reading. Eight questionnaires included comments on general difficulties or dislike of code: physical discomfort, fingers hurting, doing too much work, or just not enjoying reading. Seven students specifically commented on aspects of the code that were difficult. Specific features mentioned included contractions, one student mentioned i and e confusion, mixing up letters, spelling and sounding out words, and

difficulty remembering letters. Another student stated that reading braille is slower than reading print. Two students said that reading was not fun. In general the Low Achievers described more specific and general difficulties with the reading process, reflecting a more negative viewpoint about braille literacy than children in the high achieving group.

4. Who reads books to you?

Responses from the two groups were similar in all categories except reading to self. Six of the high achievers stated they read to themselves, as compared to only two of the Low Achievers. The family was listed most frequently, followed by the classroom teacher and teacher of students with visual impairments. An interesting finding was that the family was more likely to read to the students, and the teacher of students with visual impairments was more likely to teach Braille (See Table 1).

Insert Table 1 about here

5. Do you read with your family at home?

The two groups were similar with regard to reading at home. Twenty two of 26 High Achievers and 23 of 27 Low Achiever questionnaires reported that the student read at home; this is approximately 85% for both groups.

6. Are the books in braille or print?

When asked whether the books read to them were in braille and print, High Achievers reported 11 (41%) print, 12 (44%) print and braille, 3 (11%) braille, and 1 (3%) did not know. Low Achievers reported 16 (62%) print, 7 (27%) both print and

braille, and 3 (12%) braille. The Low Achievers more often listened to books read from print rather than braille.

7. What is your favorite book?

Most students in both groups mentioned a favorite book or books. The High Achievers named 21 books. Two questionnaires included "I don't know" responses (from a second grader and a fourth grader); one student said "nonfiction mysteries"; and a kindergartener indicate that the book he wrote himself was his favorite. Harry Potter books were mentioned three times by this group (twice by the same student in subsequent years; one student mentioned Jack and Annie books in two subsequent interviews; all other books were mentioned just once.

Choices of the Low Achievers were similar. In total, 24 books were mentioned. One student said, "I don't have one. I like all my books", and another said "my reading book". Of the 24 books that were named, Barney was named twice by the same child and Judy B. Jones was mentioned twice by two different children (and by one child in the High Achieving group). There were no evident differences between book preferences of the two groups.

8. What do your friends want to know about braille?

The two groups were similar in the types of interest in braille they reported from friends. Friends showed more interest in writing than reading, and this was more often reported by the High Achievers than the Low Achievers. Eighteen positive responses in the High Achievement group were about general reading and writing, as compared with

12 similar responses from the Low Achievement group. Only a few students reported that their friends asked about specific topics: one said a friend wanted to know about the alphabet; another said a friend wanted to know how he did braille and why he liked it; a third wanted to know how the dots worked. Ten children who were low achievers said their friends were not interested or they did not know, as compared with five children from the high achieving group.

9. What do you and your friends do with braille?

Responses to this question were also similar for both groups. Slightly more high achievers than low achievers described some interaction with peers around braille (19 HA compared with 17 LA). More Low Achievers described writing with friends (7 HA compared with 10 LA), and more High Achievers reported Play or Exploration with friends (5 HA compared with 2 LA). Eleven responses from Low Achievement group showed that they did not interact with peers, as opposed to six from the High Achievement group.

10. What do your teachers say about learning to read and write braille?

Responses in this area were also similar between the two groups. Teachers encouraged with students with positive comments (They say good job; it's cool). Additional comments included eight responses that focused on work habits (Turn in your work; you need to learn), and thirteen general comments about reading and writing.

Discussion

Student interviews reflected few differences between the High Achieving and Low Achieving students, except on questions 2 and 3, which related to like and dislikes about braille. For these two questions, Low Achievers were more likely to say they did not like anything about braille or to give no answer, while High Achievers more often said they liked reading. When asked what they disliked, Low Achievers named specific features of the braille code or reading process more often, while High Achievers more often said there was nothing they disliked (11 responses from high achieving students as compared to 1 response from a low achieving student). It is not surprising that students who were having less success in reading had less positive attitudes about the experience of learning to read. One implication of this finding is that students who have negative attitudes toward reading are less likely to engage in reading activities (Hersh, Stone, and Ford, 1996). Thus, their overall literacy achievement may be impacted by a cyclical affect of limited engagement in reading activities which leads to less progress in achievement. This idea is supported by the research findings, as those students who were high achievers read to themselves more often than those students who were low achievers indicating differences in internal motivation toward reading.

Another interesting finding from this investigation related to who reads to the students and who teaches braille to students. For the most part, family members read to both high and low achieving students, and TVIs had the primary responsibility to teach both groups of students to read and write braille. Recent discussions have occurred regarding the responsibility of literacy instruction (Blankenship, 2008; Farrenkopf, 2008; Holbrook, 2008; Swenson, 2008). Responses from this study clearly show that the

general education teacher is not perceived by children as being responsible for teaching them to read and write. Rather, they unanimously name their teachers of students with visual impairments as the primary person who teaches them to read and write. Current ideology in our field is that the primary person responsible for teaching literacy to children who are learning to read and write in braille should posess an understanding of language and literacy development as well as knowledge of the braille code (Holbrook, 2008). Advocates of braille literacy would state that a teacher of the students with visual impairments cannot teach braille in isolation of literacy (Farrenkopf, 2008). The results of this research supports the argument that braille literacy skills, teaching students to read and write in braille should be taught by one who possesses knowledge of the code and of literacy processes. As the field of visual impairments embraces this fundamental shift, university personnel preparation programs must also be willing to adjust their principles to include preparation for teachers to possess knowledge of language and literacy development in addition to skills in braille.

Limitations

One of the greatest weaknesses of this study was that student perceptions were obtained through self-report (Leedy & Ormrod, 2010). When obtaining information from young children, it is not always as accurate or as complete as one might like. However, the fact that responses from the students remained consistent over time validates the results.

Also, given the fact that some of the participants entered the study in the second and third years of the study may have influenced the study outcomes. Uneven interview data may account for discrepancies in the study findings. In subsequent studies it would

be important to only examine data obtained during the years in which all of the students participated.

Implications for Research & Practice

While this research does not demonstrate empirically that there is a relationship between student perception and success with learning to read and write braille, it does provide valuable information from the student's point of view. Students clearly expressed their likes and dislikes about learning to read and write braille. Many of the low achieving students, for example, expressed why braille was difficult for them. It is critical for TVIs and family members to design strategies to motivate students who are struggling to learn braille. Creating games and activities to stimulate students' interest in wanting to read braille may be a first step toward helping students to gain success in learning to read and write braille. Also, expanding the number of books and materials in dual media (print and braille) so that families can become active participants in encouraging their young children to embrace braille may enhance student perceptions. Finally, expanding research efforts that consistently examine the relationship between students' success with literacy and motivation to read and write in braille is necessary. As a field we have minimal data to support how student attitudes toward learning to read and write braile influences successful literacy outcomes. Perhaps research endeavors that evaluate specific interventions to improve braille literacy may provide further insight into the motivational factors that influence successful braille readers.

References

Argyropoulos, V. S., Sideridis, G. D., & Katsoulis, P. (2008). The impact of the perspectives of teachers and parents on the literacy media selections for independent study of students who are visually impaired. *Journal of Visual Impairment and Blindness, 102*(4), 221-231.

Blankenship, K. (2008). Reading is Rocket Science. *Journal of Visual Impairment and Blindness 102*(4), 197-200.

Brennan, S. A., Luze, G. J., & Peterson, C. (2009). Parents' perceptions of professional support for the emergent literacy of young children with visual impairments. *Journal of Visual Impairment and Blindness 103*(10), 694-704.

Craig, C. J. (1996). Family support of the emergent literacy of children with visual impairments. *Journal of Visual Impairment & Blindness*, *90*(3), 194-200

Craig, C. J. (1999). Home Literacy experiences of a child with a visual impairment. *Journal of Visual Impairment and Blindness 93*(12), 794-97.

Farrenkopf, C. (2008). Reading Instruction: Best Practices and Realities in Canada's Largest school District. *Journal of Visual Impairment and Blindness 102*(4), 200-3.

Hersh, C. A. , Stone, B. J., & Ford, L. (1996). Learning disabilities and learned helplessness: A hearistic approach. *International Journal of Neuroscience, 84,*

103-113.

Holbrook, M. C. (2008). Teaching Reading and Writing to Students with Visual Impairments: Who is Responsible? *Journal of Visual Impairment and Blindness 102*(4), 203-6.

Leedy, P.D. & Ormrod, J.E. (2010). *Research planning and design* (9th ed.). Boston, MA: Allyn & Bacon.

Morgan, P.L., Fuchs, D., Compton, D.L., Cordray, D.S. & Fuchs, L.S. (2008). Does early reading failure decrease children's reading motivation? *Journal of Learning Disabilities, 41*, 387-404.

Project Emerge, a program of the Frank Porter Graham Child Development Institute of the University of North Carolina at Chapel Hill (2009). Studies (Unpublished raw data). Retrieved from http://www.fpg.unc.edu/~emerge/

Ryles, R. (1996). The impact of braille reading skills on employment, income, education, and reading habits. *Journal of Visual Impairment and Blindness, 90*(3), 219-26.

Sideridis, G. D., Morgan, P. L., Botsas, G., Padeliadu, S., & Fuchs, D. (2006). Identification of students with learning disabilities based on motivation, metacognition, and psychopathology: A ROC analysis. *Journal of Learning Disabilities*, *39*, 215-229.

Swenson, A. M. (2008). Reflections on Teaching Reading in Braille. *Journal of Visual Impairment and Blindness 102*(4), 206-9.

Table 1 *Responsible parties for teaching braille versus reading books.*

Who teaches you braille?			Who reads books to you?		
	HA	LA		HA	LA
TVI	22	23	TVI	5	6
Paraprofessional	9	11	Paraprofessional	1	1
Classroom teacher	3	5	Classroom teacher	8	9
Family	1	0	Family	17	18
Self	1	0	Self	6	2
Other	1	0	Other	2	2

3/15/2013
T 2864905 22 00
HF GROUP - IN